



USE OF CLEANERS & SANITIZERS IN ORGANIC PRODUCTION & HANDLING

Guidance

Sanitizers and cleaners used in organic production must be reviewed and approved by PCO. Approved products are included in the PCO Approved Materials List, which is published quarterly and provided to PCO clients.

DEFINITIONS

- Cleaners- Materials used to remove dirt, filth, or foreign matter from equipment and food contact surfaces that are generally followed with a clean (potable) water rinse. Example(s): CIP cleaners, dish soap
- Sanitizers- Chemical or physical agents that reduce microorganism contamination levels present on inanimate environmental surfaces; sanitizers are generally not followed by a water rinse.

ADDITIONAL INFORMATION

SANITIZERS USED IN DIRECT FOOD CONTACT

Sanitizers used in direct food contact, such as fruit/vegetable washing or poultry /meat carcass washes, may only contain nonagricultural (nonorganic) substances if listed at §205.605 of the National List and be used in accordance with any restrictions so listed.

This includes the following active ingredients:

- Acidified Sodium Chlorite
- Chlorine Materials
- Hydrogen Peroxide
- Potassium Carbonate
- Sodium Carbonate (soda ash)
- Sodium Bicarbonate
- Sodium Hydroxide
- Ozone
- Peracetic Acid/ Peroxyacetic Acid

If products formulated with these approved active ingredients as listed above also contain inerts, these inerts must be listed at §205.605 or §205.606. This includes all surfactants, adjuvants and other additives.

The product must have a current product label with EPA Registration Number for review or FDA Approval Number (e.g. for carcass washes), as applicable. Also, the product label must allow for direct food contact. If the label does not have any specific use instructions (generic labels usually don't), the product can still be allowed so long as all ingredients are approved.

Specific restrictions may be applied to food contact sanitizers depending on the ingredients. If a restriction applies, it will be listed next to the material in the PCO Approved Materials List. If no restriction applies, then the material is allowed in direct food contact with no rinse required. Applicable restrictions:

- Acidified Sodium Chlorite. For use as secondary direct antimicrobial food treatment and indirect food

contact surface sanitizer. Acidified with citric acid only. §205.605(b)

- Chlorine (Processing). Residual levels of chlorine in water in direct food contact must not be greater than specified in the Safe Drinking Water Act (4 ppm as chlorine, 0.8 ppm as chlorine dioxide). §205.605(b)
- Paracetic Acid. For use in wash and/or rinse water according to FDA limitation. §205.605(b)
- Sodium Hydroxide. Prohibited for use in lye peeling of fruits and vegetables. §205.605(b)

CLEANERS AND SANITIZERS USED ON EQUIPMENT WITHOUT A RINSE

All ingredients must be allowed on the National List and meet applicable annotations. This includes the following active ingredients:

- Phosphoric acid products
- Chlorine products (Sodium hypochlorite, calcium hypochlorite, chlorine dioxide). Solution must drain, surface must be dry before contact with organic product, and must be used according to label instructions.

All inert ingredients must be reviewed and allowed at §§205.605 or §205.606 of the National List.

Products approved for direct food/product contact may also be used on equipment without rinsing.

The product must have a current product label with EPA Registration Number for review, if available. Label must allow for use without a water rinse. If the label does not have any specific use instructions (generic labels usually don't), the product can still be allowed so long as all ingredients are approved.

Specific restrictions may be applied to equipment cleaners used without a rinse depending on the ingredients. If a restriction applies, it will be listed next to the material in the PCO Approved Materials List. Applicable restrictions:

- Chlorine (Equipment). May be used up to maximum labeled rates for disinfecting and sanitizing food contact surfaces and equipment. Rinsing is not required unless mandated by the label use directions. If chlorine is used at higher levels than specified in the Safe Drinking Water Act (4 ppm as chlorine, 0.8 ppm as chlorine dioxide), food contact surface must be allowed to drain and dry thoroughly.

The following additional requirements apply for equipment cleaners used in dairy operations according to the Pasteurized Milk Ordinance:

- Product must be EPA Registered (must verify current registration)
- All ingredients must be listed at 21 CFR 178.1010
- Label must provide directions for milk equipment sanitation

CLEANERS AND SANITIZERS USED ON EQUIPMENT WITH A RINSE OR PURGE

Active ingredients do not have to be allowed on the National List, but must be classified as non-persistent (Quaternary Ammonium Compounds are persistent).

This includes typical cleaning compounds with active ingredients such as:

- Alkali cleaners (most common) usually in combinations like sodium metasilicate,
- trisodium phosphates, tetrapotassium diphosphate, sodium hydroxide, sodium carbonate, plus often include polyphosphates and chelating agents, wetting agents and chlorine
- Acidic cleaners (used to remove insoluble mineral salts) – acetic acid, lactic acid, hydroxyacetic acid,

phosphoric acid, sulfuric acid (muriatic acid)

- Household brands of Clorox
- Iodophors – are iodine compounds complexed with surfactants, more effective
- than chlorine at killing yeasts, kill bacteria at levels of 12-25 ppm (equivalent to 200 ppm Cl) also have detergent properties. Iodine products May be slightly more persistent than other cleaners, and should have a documented thorough rinse.
- 1-octanesulfonic acid, sodium salt
- Octanoic acid

Inert ingredients are not required to be reviewed.

Non-persistent materials can be used on food contact surfaces with an intervening event, such as a hot water rinse or documented purge of product, so that the substance is not in contact with organic products. The rinse restriction will be listed next to the material in the PCO Approved Materials List:

- Cleaners (Must Rinse). Must not be used in direct food contact. Equipment and food contact surfaces must be rinsed with clean water thoroughly after use. §205.272

Note: Use of a "must rinse" cleaner can be followed with an approved "no rinse" sanitizer instead of water.

QUATERNARY AMMONIUM COMPOUNDS (QAC) USED AS SANITIZERS

Active ingredients do not have to be allowed on the National List. Quaternary Ammonium Compounds (QACs or Quats) are prohibited unless used according to a PCO-approved residue testing protocol.

Examples of QACs include:

- Benzalkonium chloride
- Octyl decyl dimethyl ammonium chloride
- Dioctyl dimethyl ammonium chloride Inert ingredients are not required to be reviewed.

QACs are prohibited due to known persistence and possible contamination unless used according to a PCO-approved residue testing protocol that demonstrates that residues do not get in or on processed products, and do not contact the product. The Quaternary Ammonium Compounds restriction will be listed next to the material in the PCO Approved Materials List:

- Quaternary Ammonium Compounds. May be used only according to a PCO- approved residue testing protocol that demonstrates that residues do not contact organic food. Residue testing protocol, cleaning log and test results must be documented.

If QAC sanitizers are used:

- The client must have written standard operating procedures in place to document the specific steps taken to ensure residues are not present, including but not limited to:
 - Cleaning before any organic runs followed by in –line testing.
 - Use an organic product purge followed by testing to determine the extent of the purge needed to remove the QAC residues.

One of the following testing methods may be approved by PCO:

- A 0 ppm test strip reading on all contact surfaces prior to every organic production run, or
- A standard operating procedure with proven to reliably produce a 0 ppm test strip reading may replace the need to test prior to every organic production run. The procedure must specify the specific steps that are taken to ensure residues are not present, and must include monitoring and periodic residue testing to ensure continued efficacy.